

SPECIFICATION

TITLE

Form With Integrated Label Or Fold-Over Card Intermediate

CROSS-REFERENCES TO RELATED APPLICATIONS

5 Not Applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable.

REFERENCE TO MICROFICHE APPENDIX

Not Applicable.

10 BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

This invention relates to business forms having integrated, removable labels and/or fold-over card intermediates.

INTRODUCTION

15 The use of business forms with integrated information-carrying cards and labels has risen greatly in recent years as businesses and consumers realize the inherent convenience and capability of these products. However, in the past, this growth has not been entirely consistent with the trend in business to become more ecologically minded. Many businesses now have turned their attention to making
20 sure that their consumer mailings and other advertisements are recyclable once they have served their purpose. Unfortunately, many of the prior art integrated form products do not allow for standard recycling of the waste produced by such forms.

As used herein, and as commonly understood in the industry, an integrated label is one in which part of the form itself becomes part of the label. Similarly, a
25 form with an integrated card is one in which part of the form itself becomes part of the

card. Such products have proven very beneficial in recent years in part because they allow for relatively convenient end user printing through laser printers, copiers, impact printers and the like.

However, the existing products exhibit numerous limitations overcome by the present invention. For example, the transfer tape, die cut type of integrated label disclosed in U.S. Patent No. 4,379,573 to Lomeli involves the application of transfer tape to the backside of a form and die cutting the integrated label from the front surface of the form. These types of labels have the advantages of being a relatively thin lamination and allowing rapid mass production of the forms. Yet in use, it can be seen that the top surface of the label is opaque and has adhesive over its entire back surface. And the remainder of the form cannot be recycled because it contains non-recyclable release materials. Many variations have been made on these types of transfer labels, including the types using a multi-layer label stock as opposed to the basic transfer tape, as exemplified by U.S. Patent No. 5,637,369 to Stewart. Nevertheless, this type of integrated label requires the addition of some type of label stock to the back of the form, a die cut through the front of the form to create the label, and some type of release material in the label stock which is left behind on the form when the label is removed.

Another type of label well known in the industry involves the use of a printable patch releasably adhered to the surface of a form and then peeled off in use to be attached to a substrate. These types of labels are not actually integrated labels because no portion of the form becomes part of the label. Thus, the patch material used for these products is a relatively thick (when compared to a transfer tape or similar liner), opaque, and printable stock usually of 50 to 70 pound weight. The labels have the advantage of being relatively thin – although thicker the transfer type

labels described above – but have the significant disadvantages of not having the support of a portion of the more substantial form layer integrated into the label. Also, since the label is really just an opaque piece of paper stock with adhesive on the underside, it does not allow the user to see through any portion of the label to the surface of the underlying form.

Integrated fold-over cards are similar to integrated labels in that they are basically an integrated label with a lamination or patch layer that can be folded in half onto itself to enclose or laminate a card created from a portion of the form layer. The relevant prior art integrated card articles, however, exhibit many of the same problems as the integrated label articles. Namely, they require the use of a release liner which remains on the form layer after removal of the card which prevents recycling of the form. For example, the integrated encapsulated card articles disclosed in U.S. Patent Nos. 5,662,976 to Popat and 5,318,326 to Garrison use a lamination layer and a lamination patch, respectively. Both teach and require the use of a release agent which remains on the form after removal of the card, thus preventing the recycling of the form. In addition, the articles taught by both patents necessitate the die cutting of the lamination or patch layer – usually a thin polyester or plastic material – which leaves behind some of this material upon removal of the card from the form, again hampering the recycleability of the form. Finally, the requirement for die cutting through the lamination layer of the prior art fold-over cards significantly increases the cost and complexity to manufacture these articles since extremely accurate dies with limited life spans must be used.

OBJECTS OF THE INVENTION

The primary object of the present invention is to provide for a thin recyclable business form with an integrated label and/or card intermediate which is relatively

quick and inexpensive to mass produce and convenient to employ by the end user.

This is accomplished by the fact that once the label and card intermediate are removed from the business form, the form is devoid of silicone or other release materials and is therefore completely recyclable. Moreover, when glassine -- a

5 crushed, transparent paper product -- is used for the patch layer of the invention, the label and the card intermediate themselves are also recyclable.

Other objects of the invention include providing a thin form which is easy to manufacture and store while allowing for visible pre-printing of the form, label and card as well as end user laser printing, photocopying or even handwriting thereon.

10 Specifically, the present invention requires that only one laminae be adhered to the form and it does not require the use of release material of any kind whether in liner, layer or coating form. Moreover, the invention does not require die-cutting of the thin plastic lamination layer to construct the articles, rather it requires only die cutting into the form layer. This alone translates directly into higher production speeds for
5 the finished article and approximately five times greater die life on dies that are much less expensive than those required to cut the thin patch material. Also, since the card and label are removable from the front of the form, their use by the consumer is simpler and more intuitive than some of the prior articles which remove from the back of the forms.

20 Other objects of the invention will be evident from the following specification.

BRIEF SUMMARY OF THE INVENTION

The present invention is a business form with an integrated label and/or fold-over card intermediate. The basic form comprises a form layer having top and bottom surfaces and a periphery, at least one die cut through the top and bottom surfaces
25 within the periphery of the form layer which defines at least one portion of the form

layer within the die cut, and a patch layer. The patch layer has a periphery and top and bottom surfaces with the bottom surface of the patch layer adhesively but removably secured to the top surface of the form layer over the entire die cut and the entire form layer portion by a layer of repositionable, peelable adhesive. The adhesive layer has a greater affinity for the bottom surface of the patch layer than the top surface of the form layer.

In the first embodiment, the patch layer, adhesive layer and form layer portion comprise a label. As a result of the affinity of the adhesive, when the label is removed from the form, the portion of the adhesive layer that is not between the patch layer and the portion of the form layer is exposed and stays adhered to the bottom surface of the patch layer. Of course, the portion of the adhesive layer which is between the patch layer and the portion of the form layer stays adhered to both the bottom surface of the patch layer and the top surface of the form layer portion upon removal of the label.

Alternatively, in the second embodiment, the patch layer, adhesive layer and form layer portion comprise an integrated fold-over card intermediate. More specifically, the form with integrated fold-over card intermediate comprises a form layer having top and bottom surfaces and a periphery, at least one die cut through the top and bottom surfaces of the form layer within the periphery of the form layer defining at least one portion of the form layer within the die cut, and a patch layer having two halves, a periphery and top and bottom surfaces. The two halves of the patch layer may be divided by a line of perforations to ease the folding of the patch layer to form the completed card.

The bottom surface of the first half of patch layer is secured to the top surface of the form layer over the entire die cut and the entire form layer portion by a

repositionable, peelable adhesive layer. The second half of the patch layer is a mirror image of the first half of the patch layer. The bottom surface of the second half of the patch layer is secured to the top surface of the form layer by the adhesive layer over neither the die cut nor the form layer portion.

5 As in the label embodiment, the adhesive layer has a greater affinity for the bottom surface of the patch layer than the top surface of the form layer such that when the fold-over card intermediate is removed from the form layer, the portion of the adhesive layer that is not between the patch layer and the form layer portion is exposed and stays adhered to the bottom surface of the patch layer. Once removed
10 from the form layer, the fold-over card intermediate can be folded in half, thus securing the two halves of the patch layer together by the adhesive layer and enclosing the form layer portion between the folded halves of the patch layer.

BRIEF SUMMARY OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a perspective view of the form with integrated label;

15 FIG. 2 is a cross-section view of the embodiment as shown in Fig. 1;

FIG. 3 is a cross-sectional view of the form with integrated label showing the removal of the label from the form;

FIG. 4 is a front view of an alternate embodiment of the invention shown in Fig. 1;

20 FIG. 5 is a perspective view of the form with integrated fold-over card intermediate;

FIG. 6 is a cross-sectional view of the embodiment shown in Fig. 5;

FIG. 7 is a cross-section view of the form with integrated fold-over card intermediate showing the removal of the intermediate from the form;

25 FIG. 8 is a cross-section of an embodiment of the folded-over card;

FIG. 9 is a perspective view of another embodiment of the form with fold-over card intermediate;

FIG. 10 is a cross-sectional view of the embodiment shown in Fig. 9;

FIG. 11 is a cross-sectional view of an alternate embodiment folded-over card;

5 and

FIG. 12 is a bottom side view of the card intermediate showing the removable sections for viewing articles placed in the card intermediate.

DETAILED DESCRIPTION OF THE INVENTION

References to layers in this specifications include sheets, webs, strips, and all other appropriate forms of laminae common in the industry. Similarly, as used herein, printing and printed indicia are meant to include all known methods of application of printed indicia to a substrate including photocopying, laser printing, impact, pre-printing, and handwriting.

Turning now to the figures, in Figure 1, there is shown a perspective view of the form with integrated label shown generally as **1**. The form **1** comprises a form layer **2**, an adhesive layer **7** and a patch layer **8**.

The form layer **2** may consist of any applicable business form, preferably one that has been preprinted on its top and/or bottom surfaces, **3** and **4** respectively. Although the form layer **2** can be any stock of suitable weight and thickness, in the preferred embodiment, the form layer **2** is paper stock of 20 lbs. to 100 lbs. weight and two thousandths of an inch to eight mils thickness. By using such weights and thickness', the form layer **2** is recyclable yet the form **1** is sized sufficiently for use in commercially available laser printers.

As shown best in Figure 2, the form layer **2** contains therein at least one die cut **5** through the form layer **2** defining at least one portion **6** of the form layer **2**

within the die cut 5. A layer of adhesive 7 and a patch layer 8 are layered over the die cut 5 and form layer portion 6.

The adhesive layer 7 is a repositionable and peelable adhesive with a greater affinity for the bottom surface 9 of the patch layer 8 than for the top surface 3 of the form layer 2. As a result and as shown generally in Figure 3, when the patch layer 8 is peeled from the top surface 3 of the form layer 2, the adhesive layer 7 adheres to the bottom surface 9 of the patch layer 8 rather than the top surface 3 of the form layer 2.

Of course, since the form layer portion 6 is physically separated from the rest of the form layer 2 by the die cut 5, when the patch layer 8 is peeled from the form layer 2, the form layer portion 6 remains adhered to the patch layer 8. Thus, the patch layer 8 with the adhesive layer 7 and the form layer portion 6 comprise the integrated label 10. Once the label 10 is removed from the form layer 2, the label 10 can be adhered to the surface of another substrate by the exposed areas of the adhesive layer 7.

The patch layer 8 is usually a thin and substantially transparent or at least translucent material. In the preferred embodiment, the patch layer 8 is composed of a clear crushed paper glassine material, however, other clear films including polyester or other papers, could be used as well. The translucent characteristic of the patch layer 8 is important since if printed information is placed on the top surface 3 of the form layer 2, and more specifically, if the indicia are placed on the top surface 3 of the form layer portion 6, the end user will be able to see the printed indicia through the translucent patch layer 8. In addition, the top surface 13 of the patch layer 8 may be made compatible with available printing methods so that additional printing could be placed thereon, for example, by running the completed form 1 through a laser printer

or by the end user handwriting information thereon before or after removal of the label **10** from the form **1**.

For clarity, only one die cut **5** and one form layer portion **6** have been shown under the patch layer **8** in the drawings. It should be understood, however, that a single label **10** may be comprised of more than one form layer portion **6**. For example, a manufacturer may want to use the form **1** as an invitation complete with an integrated identification tag for an event it is sponsoring. The manufacturer could pre-print the top surface **3** of the form layer **2** with various information regarding the event, including its logo, general instructions regarding filling out the identification tag, and the logo for the event itself. The patch **8** would then be laminated onto the top surface **3** of the form layer **2** over some of that information. To avoid having the general instructions become part of the label **10** (the identification tag), at least two die cuts **5** would be made from the bottom surface **4** of the form layer **2** around the manufacturer's and the event's logos. Thus, the pre-printed logos would become part of the label **10** when it is removed from the form **1** while the general instructions would remain on the form layer **2**.

Another variation to the basic embodiment is shown in Figures 1, 2 and 3, as a bullet label **12** within the label **10**. The bullet label **12** comprises a portion of the patch layer **2** defined by a die cut **11** extending through the patch layer **8** and adhesive layer **7**. Thus, the bullet label **12**, can be removed from the label **10** as shown in Figure 3 and attached to another substrate.

Figure 4 shows a top view of another variation of the present invention. In this embodiment the patch layer **8** is composed of an opaque material. Also, the patch layer **8** and the die cut **5** are sized and oriented with respect to each other such that the distance between an edge **14** of the patch layer **8** and a corresponding edge **15** of

the form layer portion **6** is greater than that distance between the other corresponding edges. In this way, when the label is removed from the form **1**, adhesive layer **7** exposed on the bottom side **9** of the patch layer **8** is wider along one edge **14** of the patch layer **8** than along the other edges. Thus, the label **10** could serve as a note or reminder label which could be adhered to a substrate principally by the wider edge of exposed adhesive layer **7**.

This embodiment directly addresses a problem with mass production of existing products. Prior notes of somewhat similar design have been difficult to use in large volume applications. This is due to the small area of adhesive and the fact that the note is usually precut and applied to the form during processing. This is a difficult process in mass production and one which results in a form that may not withstand the rigors of the manufacturing and printing environments before the note prematurely releases from the form. The present invention prevents premature removal of the note because there is sufficient adhesive around even the three narrow edges of the patch layer **8** to hold the patch ^{layer} **8** to the form layer **2** during manufacturing and printing processes. Thus, the label **10** releases from the form layer **2** only when pulled off by the end user. This arrangement holds the label **10** in the form **1** for processing while allowing easy attachment to and repositioning of the label **10** on a substrate by the wide edge of exposed adhesive **7** when the label **10** is removed.

In a somewhat similar variation, the patch layer **8** can be sized and offset in relation to the die-cut **5** in the form layer **2** such that the distance between an edge of the patch layer **2** and a corresponding edge of the form layer portion **6** is less than that between the other corresponding edges. In this way, the width of the adhesive along one edge of the label **10** is minimized. This minimizes the bond between the

label **10** and the form layer **2** along this edge and provides for easier removal of the label **10** from the form **1** by the end user while ensuring sufficient bond to prevent premature release during processing or printing.

Figures 9 and 10 show an alternate embodiment of the present invention, a form **1** with integrated fold-over card intermediate, shown generally as **16** in Figure 10. In this embodiment, the invention comprises a form layer **2** having top **3** and bottom **4** surfaces. The form layer **2** contains at least one die cut **5** through the form layer **2** defining at least one portion **6** of the form layer **2** within the die cut **5**. Figure 10 shows the bottom surface **9** of one half **8a** of the patch layer **8** secured by a repositionable, peelable adhesive layer **7** to the top surface **3** of the form layer **2** over the entire die cut **5** and the entire form layer portion **6** of the form layer **2**. The second half **8b** of the patch layer **8** is a mirror image of the first half **8a** of the patch layer **8**. The bottom **9** surface of the second half **8b** of the patch layer **8** is also secured to the top surface **3** of the form layer **2** by the adhesive layer **7**, however, the second half **8b** of the patch layer **8** is not positioned over the die cut **5** or the form layer portion **6**.

So arranged, the patch layer **8**, adhesive layer **7** and the form portion **6** comprise the fold-over card intermediate **16**. As in the previous embodiments, the adhesive layer **7** has a greater affinity for the bottom **9** surface of the patch layer **8** than the top **3** surface of the form layer **2**. Thus, when the fold-over card intermediate **16** is removed from the form layer **2** by peeling back an edge of the patch layer **8**, the portion of the adhesive layer **7** that is not between the patch layer **8** and the form portion **6** is exposed and stays adhered to the bottom **9** surface of the patch layer **8**.

Once removed from the form layer **2**, the fold-over card intermediate **16** can be folded in half thus securing the two halves **8a**, **8b** of the patch layer **8** together by the adhesive layer **7** and enclosing the form layer portion **6** between the two folded halves **8a**, **8b** of the patch layer **8** as shown in Figure 11. Although the adhesive layer **7** is repositionable and peelable from certain substrates like the form layer **2**, when adhered to itself as in the completed card, generally shown in Figure 11 as **18**, the adhesive layer **7** forms a substantially permanent bond between the halves **8a**, **8b** of the patch layer **8**.

This substantially permanent bond also yields a tamper evident feature to the fold-over card invention. If the halves **8a** and **8b** of the patch layer **8** are forced apart once adhered to each other, some of the adhesive layer **7** will pull away from the side of the patch layer **8** it was originally on. This results in a mottled look to the adhesive layer **7** due to the offsetting of some of the adhesive which is visible through the patch layer **8** when the halves **8a** and **8b** are reunited. This mottled look is easily distinguishable from the substantially clear look of the initial adhesive to adhesive bond and a tell-tale sign of attempted tampering with information contained in the fold-over card **16**.

The embodiment of the invention having a fold-over card intermediate **16** containing a single card portion **6** carries the benefit of allowing both sides of the card portion **6** to be viewed through the patch layer **8** when the fold-over card intermediate **16** is folded in half into the finished card **18**. In other words, a printed indicia on both sides of the card portion **6** can be viewed through the halves of the translucent patch layer **8**.

This has an added benefit when the fold-over card intermediate **16** is used as an identification card or requires a signature by the end user. In such a use, the end

user who receives the form containing the fold-over card intermediate **16** can sign the back **4** of the form in the form portion **6** and then remove the fold-over card intermediate **16** and fold it in half, this prevents tampering with the user's signature which is now fully enclosed by the patch layer **8**.

5 In some instances, however, it may be beneficial to have the additional thickness and strength of a card intermediate having two form layer portions. Such an embodiment is shown in Figures 5 through 8. In this embodiment, at least one second die cut **5a** is made in the form layer **2** defining at least one second portion **6a** of the form layer **2**. The second die cut **5a** and second form layer portion **6a** are
10 disposed beneath the second half **8b** of the patch layer such that the second form layer portion **6a** is removably secured to the bottom **4** surface of the second half **8b** of the patch layer **8** by the adhesive layer **7** and becomes part of the fold-over card intermediate **16**. Thus, upon removal of the intermediate **16** from the form layer **2**, the second form layer portion **6a** is enclosed with the first form portion **6** when the
15 intermediate **16** is folded in half. As can be seen in Fig. 8, when folded in half, only the top surfaces **3** of the first and second form layer portions **6** and **6a**, respectively, are visible through the patch layers **8** because the bottom **4** surfaces of the form layer portions **6** and **6a** are laminated together and obscured from sight.

As will be understood by those in the industry, it is beneficial that the present
20 invention provides for the viewing of the top surfaces **3** of the form layer portion **6** and **6a** (if used) through the patch layer **8** of the card intermediate **16**. Usually, business forms have a larger number and quantity of printed colors on the front of the forms than the back. Since most printing presses have a limited capability for printing different colors, it can be difficult to obtain the necessary colors on the backside of the
25 form. For example, when processing a form through a press that prints six colors, the

form may require five colors on the front which leaves only one for the backside. This is a significant limitation of prior articles which form the exposed areas of the card from the back of the business form.

Also, in either the single or multiple form layer portion embodiments, the patch layer can contain a line of perforations **15** separating the halves, **8a** and **8b**, of the patch layer **8**. When the card intermediate **16** is removed from the form **1**, the intermediate **16** can be folded in half along the line of perforations **15**. And like the label embodiment previously described, for clarity, only one die cut **5** and one form layer portion **6** have been shown under each half of the patch layer **8** in the drawings.

It should be understood, however, that a single card intermediate **16** may be comprised of more than one form layer portion **6** under each half of the patch layer **8**.

A final embodiment of the fold-over card article is shown in Figure 12 and has at least one area **19** of exposed adhesive **7** incorporated into the card intermediate **16** for viewing an article placed into the intermediate **16**. A preferred method of creating this area **19** is a die cut **20** in the card portions **6** or **6a** which creates a waste section **17** within the card portions **6** or **6a** or along at least one edge of the card portions **6** or **6a**. This waste section **17** can be peeled from the card intermediate **16** which leaves the adhesive layer **7** on the bottom surface of the patch layer **8** because of the affinity characteristics of the adhesive. Although the waste portion **17** is separated from the rest of the form layer **2** and the card layer portions **6** and **6a**, by the die cut **20**, it is sufficiently secured to the card intermediate **16** by the adhesive layer **7** for transport though the assembly and printing processes.

Alternatively, when the waste section **17** is along at least one edge of the form layer portion **6**, the area **19** can be defined by shaping the same die cut **5** that defined the form layer portion **6**. In this way, waste section **17** can be made to be part of the

form layer **2** and remain behind when the card intermediate **16** is removed from the form **1**.

However defined, the area **19** of exposed adhesive **7** is created by removing the waste section **17** and exposing the adhesive layer **7** thereunder. An article – a picture, magnetic key, microchip, memento, etc. – can then be placed into or over the area **19**. Thereafter, the card intermediate **16** is folded in half enclosing the article in the finished card **18**. The area **19** can be in one or both of the card layer portions **6** or **6a** and can be located within one of the card layer portions **6** or **6a** or along one or more edges of the card layer portions as shown in Figure 12. Also, the area **19** need not be larger than the article and the article need not be placed into the area, but the area must be large enough to view the relevant portion of the article through the patch layer **8**. For example, if a picture is used as the article, it could be larger than the area **19** and simply placed over the area **19** such that the relevant portion of the picture is viewable through the area **19** while the rest of the picture is obscured by the form layer portion **6**.

All the embodiments disclosed herein are created using the same basic method. First, printing, if necessary, is placed on the top surface **3** of the form layer **2**. Then, a roll of patch layer material having the adhesive layer **7** already disposed on the bottom side **9** thereof, is unwound. The patch layer material in the roll is already cut to the appropriate width for use. Also, when used to construct the form with integrated card intermediate embodiment, the patch material roll may have been pre-perforated along the line **15**. As an alternative to the roll of patch layer material, the patch layer material and the patch layers **8** could be prepared as pre-cut labels, as is known in the art. In any event, the patch layer material is cut into individual patch

layers **8** by known methods. The patch layers **8** are applied to the top surfaces of the form layer **2** by the adhesive **7** also using known methods.

Depending on the embodiment sought and the predetermined size and arrangement of the patch layer **8** with respect to the form layer **2**, the necessary die cuts **5**, **5a** and **20**, are made in the form layer **2** from the back side **4** of the form layer **2**. The die cut **11**, for the bullet label **12**, if used, can also be made at this time through the top surface **13** of the patch layer **8**. Printing can also be placed on the top surface **13** of the patch layer **8**, by the manufacturer of the form **1** or by the end user.

As can be seen, die cuts in the patch layer **8** are not required to form the integrated label **10** or the card intermediate **16**. This greatly enhances the speed and ease of manufacturing the invention.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantages are attained. As various changes could be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description shall be interpreted as illustrated and not limiting.